Photo Interrupter

KIT1019A

Description

The KIT1019A photo-interrupter high-performance standard type,

combines high-output GaAs IrED with high sensitivity phototransistor.



RoHS

Features

- PWB direct mount type.
- 1.1mm gap.
- Compact.
- Lead Free, RoHS and Halogen Free Compliant.

Applications

- Cameras.
- Copiers.
- Printers.
- DVD Player.

Absolute Maximum Ratings (T_a=25℃, Unless otherwise specified)

Characteristic		Symbol	Ratings	Unit
Input LED	Power Dissipation	P_D	75	㎽
	Forward Current	I_F	50	㎃
	Reverse Voltage	V_R	6	V
	Pulse Forward Current *1	I_{FP}	0.5	A
Output Detector	Collector Dissipation	P_C	75	㎽
	Collector Current	I_C	20	㎃
	C-E Voltage	V_{CEO}	30	V
	E-C Voltage	V_{ECO}	6	V
Operating Temperature *2		Topr.	-25 ~ ＋85	℃
Storage Temperature *2		Tstg.	-40 ~ ＋100	℃
Soldering Temperature *3		Tsol.	260	℃

*1 : Pulse width tw≤100 ㎲ period T=10 ㎳

*2 : No icebound or dew

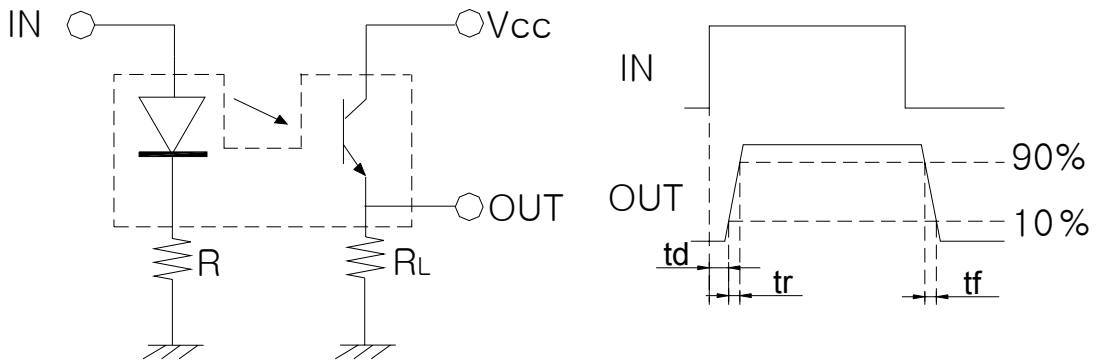
*3 : The soldering should be 0.3mm or more away from bottom of the case t=within 3sec

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Electrical Characteristics (T_a=25℃)

Characteristic		Symbol	Min.	Typ.	Max.	Unit	Condition
Input LED	Forward Voltage	V_F	-	1.2	1.4	V	I_F=20 ㎃
	Reverse Current	I_R	-	-	10	㎂	V_R=5V
	Peak Wavelength	λ_P	-	940	-	㎚	I_F=20 ㎃
Output Detector	Dark Current	I_{CEO}	-	1	100	㎁	V_{CE}=10V, 0lx
	Peak Wavelength	λ_P	-	880	-	㎚	-
Transmission Characteristics	Light Current (Collector Current)	I_C	0.10	-	0.45	㎃	I_F=5 ㎃, V_{CE}=5V Non shading
	Leakage Current	I_{CEOD}	-	0.5	10	㎂	I_F=5 ㎃, V_{CE}=5V Shading
	C-E Saturation Voltage	V_{CE}(sat)	-	0.15	0.4	V	I_F=10 ㎃, I_C=0.03 ㎃
Response Time	Rise Time	tr	-	10	-	㎲	V_{CC}=5V, I_C=1 ㎃ R_L=100Ω
	Fall Time	tf	-	10	-	㎲	

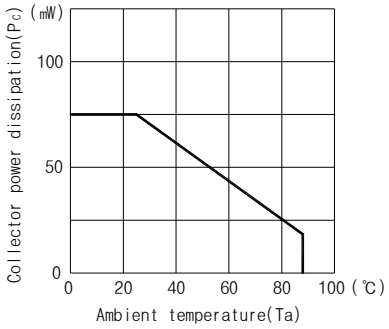
- Circuit for measuring response time



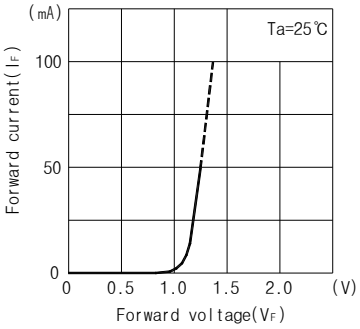
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Electrical and optical characteristic curves

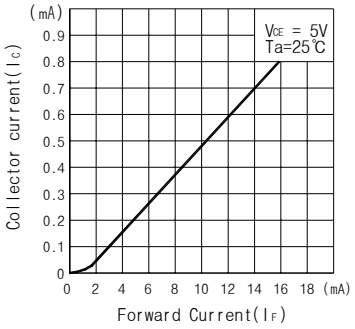
Collector power dissipation Vs. Ambient temperature



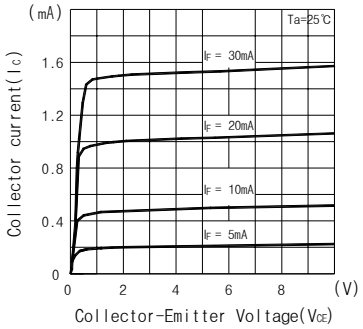
Forward current Vs. Forward voltage



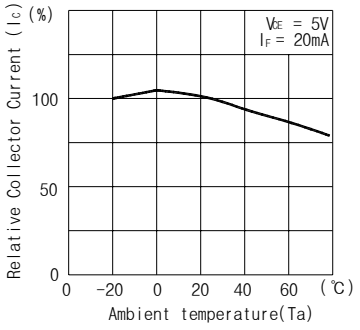
Collector Current Vs. Forward Current



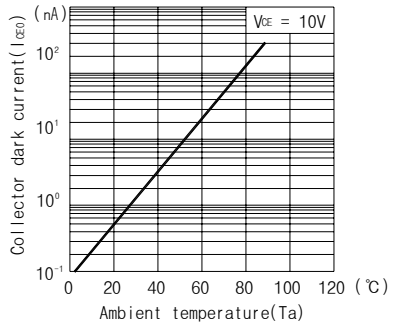
Collector Current Vs. Collector-Emitter Voltage



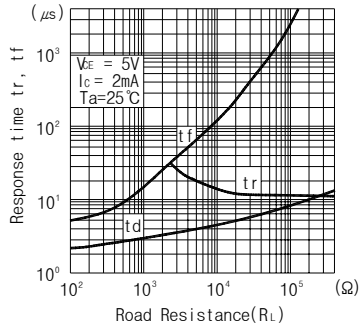
Relative Collector Current Vs. Ambient temperature



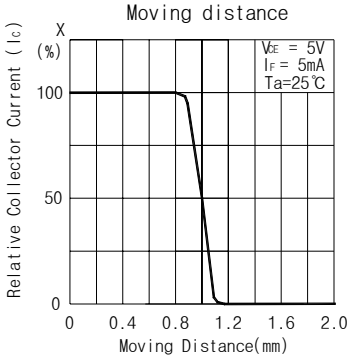
Collector Current Vs. Ambient temperature



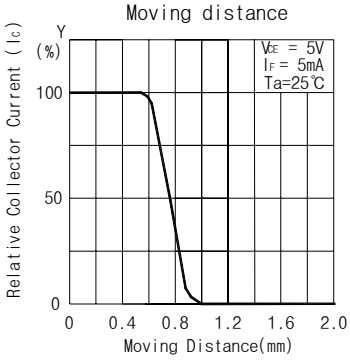
Switching time Vs. Load resistance



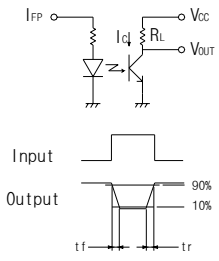
Relative Collector Current Vs. Moving distance



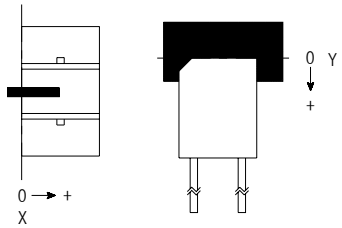
Relative Collector Current Vs. Moving distance



Switching time measurement circuit

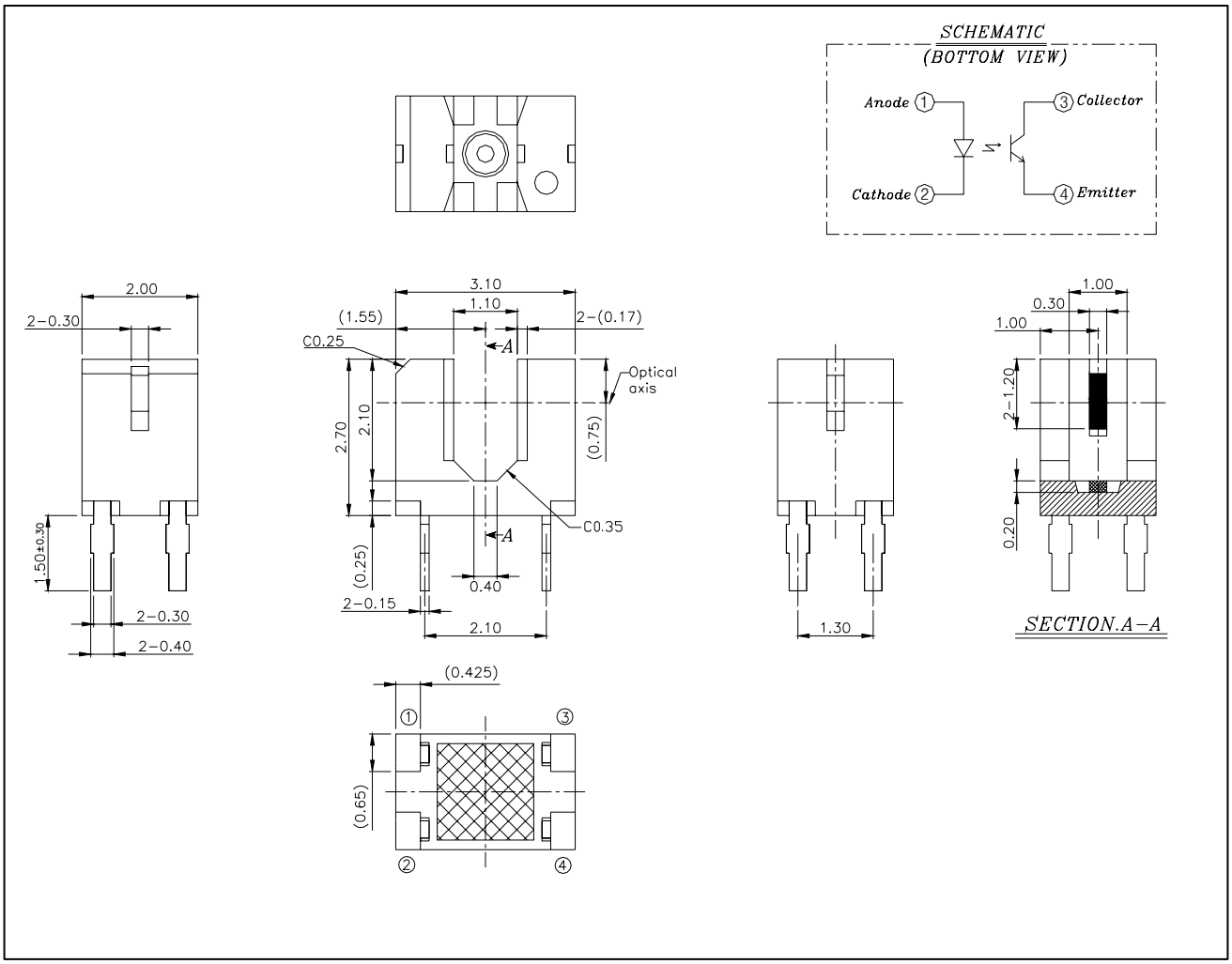


Method of measuring position detection characteristic



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Package Outline Dimensions



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